



**Product:** [3105ELW](#)

Life Cycle Status: Capability

RS-485, 1 Pr #22 Str TC, FoamPE ins, F/B, LSZH Jkt, Cca

### Product Description

RS-485, 1 Pair, 22 AWG stranded (7x32) Tinned Copper conductors, Foamed Polyethylene insulation, twisted pairs, overall Beldfoil® (100% coverage) + Tinned Copper braid shield (65% coverage), 22 AWG stranded Tinned Copper drain wire, LSZH jacket, CPR Cca

### Technical Specifications

#### Product Overview

Suitable Applications:	Instrumentation and computer cable. For EIA RS-485 transmissions applications
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#### Construction Details

##### Conductor

Element	No. of Elements	Size	Stranding	Material
Pair(s)	1	22 AWG	7x30	TC - Tinned Copper

##### Insulation

Element	Material	Nom. Thickness	Nom. Insulation Diameter	Color Code
Pair(s)	PE - Polyethylene (Foam)	0.72 mm (0.028 in)	2.2 mm (0.087 in)	White & Blue, Blue & White

##### Outer Shield

Shield Type	Material	Coverage	Drainwire Type
Tape	Bi-Laminate (Alum+Poly)	100%	22 AWG (7x30) TC
Braid	Tinned Copper (TC)	65%	

##### Outer Jacket

Material	Nom. Thickness	Nom. Diameter
LSZH - Low Smoke Zero Halogen (Flame Retardant)	0.9 mm (0.035 in)	7.4 mm (0.29 in)

Overall Cable Diameter (Nominal): 7.40 mm (0.291 in)

#### Electrical Characteristics

##### Electricals

Element	Nom. Conductor DCR	Nom. Capacitance Cond-to-Cond	Nom. Capacitance Cond-to-Other (Conds + Shield)	Nom. Characteristic Impedance	Nom. Velocity of Prop.	Max. Current
Pair(s)	48.2 Ohm/km (14.7 Ohm/1000ft)	36.1 pF/m (11.0 pF/ft)	68.6 pF/m	120 Ohm	78%	2.7 Amps per Conductor
Nom. Outer Shield DCR:	9.2 Ohm/km (2.8 Ohm/1000ft)					

##### High Frequency (Nominal/Typical)

Element	Frequency [MHz]	Nom. Insertion Loss (Attenuation)
Pair(s)	1	1.64 dB/100m (0.500 dB/100ft)

##### Voltage

Voltage Rating
300 V

## Mechanical Characteristics

### Temperature

Operating	Installation	Storage
-45°C To +80°C	-15°C To +80°C	-45°C To +80°C

### Bend Radius

Stationary Min.	Installation Min.
37 mm (1.5 in)	74 mm (2.9 in)

Max. Pull Tension:	240 N (54 lbf)
Bulk Cable Weight:	65 kg/km (44 lbs/1000ft)

## Standards and Compliance

Environmental Suitability:	Indoor - Euroclass Cca, Indoor, Non-Halogenated, Sunlight Resistance, Oil Resistance
Flammability / Reaction to Fire:	IEC 60332-1-2
CPR Compliance:	CPR Euroclass: Cca-s1,d1,a1
ISO/IEC Compliance:	IEC 61034-2 - Smoke Density Min Transmittance = 60%
CENELEC Compliance:	EN 50290-2-20
European Halogen Free Standards:	IEC 62821-1 Halogen Free Compliance = Yes, IEC 60754-1 - Halogen Amount = Zero, IEC 60754-2 - Halogen Acid Gas Amount - Max. Conductivity = 2.5 $\mu$ S/mm, IEC 60754-2 - Halogen Acid Gas Amount - Min. pH = 4.3
European Directive Compliance:	EU CE Mark, EU Directive 2015/863/EU (RoHS 2 amendment), EU Directive 2011/65/EU (RoHS 2)
UK Regulation Compliance:	UKCA Mark
Other Standard Compliance(s):	DMX-512

## Product Notes

Notes:	This is a preliminary Technical Design Specification (TDS) which is subject to modification throughout the prototyping phase. The minimum business quantity to offer is 3km for the first order. This product will have Black as standard color and 305mt or 500mt as standard put-ups. Additional options for colors and put-ups are available on special request. The estimated production lead time for the first order will be similar to the production lead time of 3105ENH plus extra 6-7 weeks. Please liaise with your Belden representative for confirmation.
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## History

Update and Revision:	Revision Number: 0.39 Revision Date: 07-21-2025
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